B/W Video Monitor

VM-6614 VM-6615P

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FILE NO.

SERVICE MANUAL

B/W Video Monitor

VM-6614

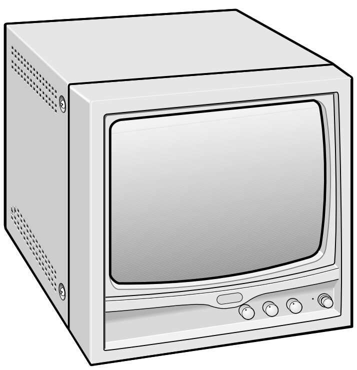
(Product Code : 114 901 31)
(U.S.A, Canada)

VM-6615P

(Product Code : 114 901 34)
(Europe)

(Product Code : 114 901 36)
(U.K.)

(Product Code : 114 901 38)
(Australia)



CONTENTS

NOTE: 1. Parts order must contain model number, part number, and description.
2. Substitute parts may be supplied as the service parts.
3. N.S.P. : Not available as service parts.

Design and specifications are subject to change without notice.

3. PARTS LIST

Note:

Alphabetic caracters enclosed by ( ) in the descriptions indicate destination for the VM-6615P.

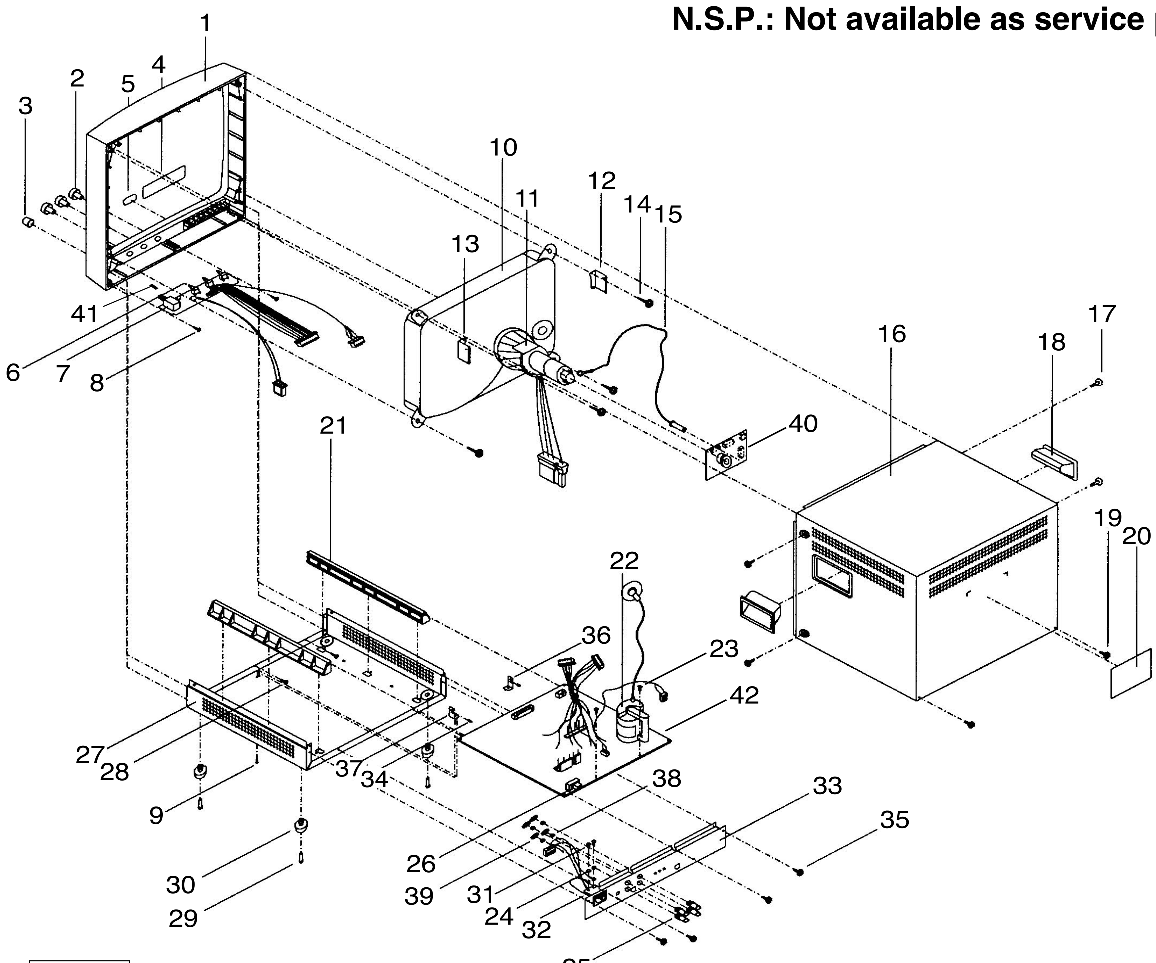
VM-6615P(AU): Australia   VM-6615P(XE): Europe   VM-6615P(UK): United Kingdom

VM-6614: NTSC area (U.S.A., Canada)

CABINET & CHASSIS PARTS

LOCATION		PARTS NO.	DESCRIPTION
1		645 046 5215	FRONT PANEL MT-15S OC-00067 [VM-6614, VM-6615P(UK)]
1		645 047 0660	FRONT PANEL MT-15S AA-51 [VM-6615P(AU), (XE)]
2		645 046 0487	VR KNOB VR MT-9 OC-00067 [VM-6614, VM-6615P(UK)]
2		645 047 0622	VR KNOB VR MT-9 AA-51 [VM-6615P(AU), (XE)]
3		645 046 0494	SW KNOB MT-9 OC-00067 [VM-6614, VM-6615P(UK)]
3		645 047 0639	SW KNOB MT-9 AA-51 [VM-6615P(AU), (XE)]
4		645 046 5178	DECORATED PLATE MT-20 OC-00067 [VM-6614, VM-6615P(UK)]
4		645 047 0608	DECORATED PLATE MT-20 AA-51 [VM-6615P(AU), (XE)]
5		645 046 0432	LOGO MT-9OC-00067 [VM-6614, VM-6615P(UK)]
5		645 047 0547	LOGO MT AL AA-51 [VM-6615P(AU), (XE)]
6		645 046 6496	VR ASS'Y MT-15S
7	⚠	645 034 3810	POWER SWITCH SS-160-7 (Included in the VR ASS'Y)
8		645 034 3605	RH W/W SCR. 3*8MM
9		645 034 3575	PH W/W SCR. 3*8MM
10	⚠	645 046 5864	CRT MI1547P4AU CPT
10	⚠	645 046 5857	CRT MI1546P4AU CPT
11	⚠	645 046 6038	YOKE MM-15A
12		645 046 6175	L TYPE MM-15A (L)
13		645 046 6182	L TYPE MM-15A (R)
14		645 034 3599	PH W/W SCR. 4*18MM
15		645 046 5413	CRT GND WIRE/1015 22AWG (N.S.P.)
16		645 034 4619	METAL CABINET CM-14
17		645 034 3582	PH W/W SCR. 4*8MM
18		645 034 3919	HANDLE COVER CM-14 PA-765A
19		645 034 3582	PH W/W SCR. 4*8MM
20		645 034 3841	ID LABEL 83*51MM (N.S.P.)
21		645 034 4299	PCB GUIDE RAIL PCB MM-12A
22	⚠	645 046 6007	FBT TRANS. CEM-15A CBC (Included in the main board)
23		645 034 3612	SCREW+WASHER 3*6MM
24		645 035 6223	WASHER OUT TEETH 4.5*8.5*0.5MM
25		645 046 0401	BNC CONNECTOR BNC 13-28 75OHM
26		645 046 0418	SLIDE SWITCH SS004-P012BJ-PA6
27		645 034 4626	BASE CM-14+Y/C (N.S.P.)
28		645 034 3605	RH W/W SCR. 3*8MM
29		645 034 3926	FOOT PAD RIVET MM-12A GL-24H
30		645 034 4657	FOOT PAD GL-24H
31		645 035 6216	BH SCREW 4*6MM
32	⚠	645 046 6519	AC SOCKET ASS'Y MM-15A
33		645 046 6403	JACK PLATE MM-15S AA-51
34		645 038 5599	SHRINK TUBE 2.5DIA. (N.S.P.)
35		645 034 3582	PH W/W SCR. 4*8MM
36		645 035 9422	PCB HOLDER PCB CM-14A (L)
37		645 035 9415	PCB HOLDER PCB CM-14A (R)
38		645 046 4942	WASHER IN TEETH 13*17*0.6MM
39		645 046 4898	NUT 12*14*2.5MM
40		645 047 9540	VIDEO BOABD MT-15S
41		645 046 0500	LED LENS MT-9/12/15/20
42		645 047 9564	MAIN BOARD MT-15S (NORMAL)

N.S.P.: Not available as service parts.



VM-6614

ELECTRICAL PARTS

Note:

1. Materials of Capacitors and Resistors are abbreviated as follows ;

Resistors

CF RES	**Carbon Film Resistor**
MF RES	**Metal Film Resistor**
MOF RES	**Metallized Oxide Film Resistor**

Capacitors

MEF CAP	**Metallized Polyester Film Capacitor (Non-inductive)**
MEMB CAP	**Mini Box Metallized Polyester Capacitor (Non-inductive)**
PEI CAP	**Polyester Film Capacitor (Inductive)**
PPN CAP	**Polypropylene Film Capacitor (Non-inductive)**
PPS CAP	**Polypropylene and Metallized Polypropylene Film Capacitor (Non-inductive)**
MPP CAP	**Metallized Polypropylene Capacitor (Non-inductive)**
X CAP(MKP)	**Metallized Polypropylene Film Capacitor (Non-inductive)**
CC CAP	**Ceramic Capacitor**
EC CAP	**Electrolytic Capacitor**

2. N.S.P. : Not available as service parts.

MAIN BOARD MT-15S (NORMAL)

LOCATION		PARTS NO.	DESCRIPTION
		645 047 9564	
		(CAPACITORS)	
C207		645 034 2738	EC CAP 2.2UF 50 V
C208		645 034 2714	EC CAP 220UF 16 V
C301		645 040 8991	PEI CAP .033UF 50V +/-5%
C302		645 046 4058	PEI CAP .068UF 50V +/-5%
C303		645 046 4287	MEMB CAP .1UF 63V +/-5%
C304		645 034 3025	MEMB CAP .22UF 63V +/-5%
C305		645 034 2615	EC CAP 100UF 25 V
C306		645 046 3938	CC CAP 33PF 50V +/-5%
C307		645 034 3025	MEMB CAP .22UF 63V +/-5%
C308		645 046 4287	MEMB CAP .1UF 63V +/-5%
C309		645 046 4287	MEMB CAP .1UF 63V +/-5%
C310		645 046 4287	MEMB CAP .1UF 63V +/-5%
C311		645 046 3778	EC CAP 4.7UF 25 V
C312		645 034 2653	EC CAP 1000UF 16V 10DIA.
C313		645 047 0530	EC CAP 2200UF 16V <=13DIA.
C401		645 046 4027	PEI CAP .0033UF 50V +/-5%
C402		645 034 2783	EC CAP 470UF 16 V
C403		645 034 2677	EC CAP 1UF 50 V
C404		645 034 3018	MEMB CAP .01UF 63V +/-5%
C405		645 046 0074	PPN CAP .0056UF 50V +/-5%
C406		645 046 4287	MEMB CAP .1UF 63V +/-5%
C407	⚠	645 046 4287	MEMB CAP .1UF 63V +/-5%
C408		645 034 2783	EC CAP 470UF 16 V
C409		645 046 4041	PEI CAP .056UF 50V +/-5%
C410	⚠	645 046 4140	MEF CAP 2.7UF 100V +/-5%
C411		645 046 3761	EC CAP 470UF 25V 105C
C412	⚠	645 046 4201	PPN CAP .027UF 630V +/-5%
C413	⚠	645 034 2783	EC CAP 470UF 16 V
C414		645 034 2950	PEI CAP .022UF 50V +/-5%
C415	⚠	645 043 3139	CC CAP 103PF 1.5KV Z5U
C416		645 046 3648	EC CAP 1UF 160 V
C417		645 046 3570	EC CAP 47UF 160V +/-20%13*21
C419		645 034 2776	EC CAP 47UF 16 V
C421		645 034 2875	CC CAP 681PF 50V Y5P
C422		645 043 3139	CC CAP 103PF 1.5KV Z5U
C430		645 046 3891	CC CAP 561PF 1KV Y5P
C902		645 046 4331	X CAP .22UF 250V +/-10%22.5M
C902		645 046 4348	X CAP .22UF 275V +/-10%22.5M
C903		645 034 3087	Y CAP 472PF 400V +/-20%
C904		645 034 3087	Y CAP 472PF 400V +/-20%
C906		645 034 3087	Y CAP 472PF 400V +/-20%
C907		645 045 9948	EC CAP 100UF 400V 22DIA.
C908	⚠	645 034 2622	EC CAP 100UF 35 V
C910		645 043 3139	CC CAP 103PF 1.5KV Z5U
C913		645 046 3877	CC CAP 391PF 50V Y5P
C915	⚠	645 046 4287	MEMB CAP .1UF 63V +/-5%
C917	⚠	645 034 3018	MEMB CAP .01UF 63V +/-5%
C918		645 034 3018	MEMB CAP .01UF 63V +/-5%
C920		645 046 4119	MEF CAP .22UF 50V +/-5% 7.5MM
C923		645 046 3617	EC CAP 1000UF 16V 105C

LOCATION		PARTS NO.	DESCRIPTION
C924		645 034 2783	EC CAP 470UF 16 V
		(DIODES)	
D301		645 034 3377	RECTIFIER DIODE 1N4003
D401		645 046 4669	RECTIFIER DIODE PS154R
D402		645 046 4690	RECTIFIER DIODE UF5402G
OR		645 046 0289	RECTIFIER DIODE 30DF2
D403		645 034 3315	DIODE 1N4148
OR		645 034 3308	DIODE 1N4148
D404	⚠	645 046 4652	RECTIFIER DIODE 15DF6
D405	⚠	645 034 3346	RECTIFIER DIODE BYT52M T52MM
D406		645 046 4669	RECTIFIER DIODE PS154R
D408		645 034 3315	DIODE 1N4148
OR		645 034 3308	DIODE 1N4148
D901		645 046 0241	RECTIFIER DIODE 1N4007
D902		645 046 0241	RECTIFIER DIODE 1N4007
D903		645 046 0241	RECTIFIER DIODE 1N4007
D904		645 046 0241	RECTIFIER DIODE 1N4007
D905		645 046 0258	RECTIFIER DIODE BA159
D906	⚠	645 040 9141	RECTIFIER DIODE PG102R
OR	⚠	645 046 4645	RECTIFIER DIODE PS104R
D910		645 034 3315	DIODE 1N4148
OR		645 034 3308	DIODE 1N4148
ZD901		645 046 4607	ZENER DIODE HZ20-2
D914		645 046 4690	RECTIFIER DIODE UF5402G
OR		645 046 0289	RECTIFIER DIODE 30DF2
D915		645 046 4591	DIODE 1N4606
		(FUSE)	
F901	⚠	645 046 0821	FUSE 2A/250V SLOWBLOW 5*20MM
		(INTEGRATED CIRCUIT)	
IC301		645 046 0128	LINEAR IC TDA1175P
IC401		645 046 0104	LINEAR IC LM1391N
IC901		645 034 3094	LINEAR IC UC3842AN
		(COILS)	
L401		645 046 0876	CHOCK COIL 20 UH +/-20%
OR		645 046 0883	CHOCK COIL 20 UH +/-20%
OR		645 046 0890	CHOCK COIL 20 UH +/-20%
L402		645 046 0838	WIDTH COIL VM-14AF
OR		645 046 0852	WIDTH COIL VM-14AF
OR		645 046 0845	WIDTH COIL VM-14AF
L403		645 046 0869	LINEARITY COIL 15 UH +/-20%
L905		645 046 0876	CHOCK COIL 20 UH +/-20%
L905		645 046 0883	CHOCK COIL 20 UH +/-20%
OR		645 046 0890	CHOCK COIL 20 UH +/-20%
PIN		645 046 0371	CONNECTOR BASE 1038H
		(SEMICONDUCTORS)	
Q205		645 046 4508	TR 2SA1015GR
OR		645 034 3209	TR 2SA733P
Q401		645 034 3216	TR 2SC1815GR
Q402		645 046 0159	TR 2SC1959Y
Q403		645 046 4546	TR 2SC4106M
Q405		645 046 0197	TR 2SD1609C
Q406		645 046 0197	TR 2SD1609C
Q901		645 040 9127	FET SSS7N60A

LOCATION	PARTS NO.	DESCRIPTION
	(RESISTORS)	
R201	645 034 2356	CF RES 75OHM 1/4W +/-5%
R222	645 045 9610	CF RES 200OHM 1/4W +/-5%
R223	645 045 9764	CF RES 680KOHM 1/4W +/-5%
R224	645 034 2028	CF RES 220OHM 1/4W +/-5%
R225	645 034 2271	CF RES 560OHM 1/4W +/-5%
R226	645 034 2271	CF RES 560OHM 1/4W +/-5%
R227	645 034 1861	CF RES 1KOHM 1/4W +/-5%
R301	645 034 2042	CF RES 2.2KOHM 1/4W +/-5%
R302	645 034 2042	CF RES 2.2KOHM 1/4W +/-5%
R303	645 034 2202	CF RES 4.3KOHM 1/4W +/-5%
R304	645 046 3310	MOF RES 3.3OHM 1W +/-5%
R305	645 040 8786	CF RES 220KOHM 1/4W +/-5%
R306	645 045 9696	CF RES 3.3OHM 1/4W +/-5%
R307	645 045 9726	CF RES 56KOHM 1/4W +/-5%
R308	645 045 9726	CF RES 56KOHM 1/4W +/-5%
R309	645 046 2948	CF RES 62KOHM 1/4W +/-5%
R310	645 040 8724	CF RES 1OHM 1/2W +/-5%
R311	645 046 2801	CF RES 470KOHM 1/4W +/-5%
R313	645 034 2127	CF RES 30KOHM 1/4W +/-5%
R314	645 046 2856	CF RES 510KOHM 1/4W +/-5%
R316	645 034 1892	CF RES 100KOHM 1/4W +/-5%
R317	645 034 2370	CF RES 82KOHM 1/4W +/-5%
R401	645 034 1861	CF RES 1KOHM 1/4W +/-5%
R402	645 034 2288	CF RES 5.6KOHM 1/4W +/-5%
R403	645 034 2325	CF RES 6.8KOHM 1/4W +/-5%
R404 ⚠	645 034 1922	CF RES 12KOHM 1/4W +/-5%
R405 ⚠	645 034 2363	CF RES 820OHM 1/4W +/-5%
R408	645 034 1984	CF RES 15KOHM 1/4W +/-5%
R409	645 045 9597	CF RES 150OHM 1/4W +/-5%
R410	645 045 9726	CF RES 56KOHM 1/4W +/-5%
R411	645 034 2288	CF RES 5.6KOHM 1/4W +/-5%
R412	645 034 2073	CF RES 2.4KOHM 1/4W +/-5%
R413 ⚠	645 038 5353	CF RES 1.8KOHM 1/4W +/-5%
R414	645 046 2436	CF RES 2KOHM 1/2W +/-5%
R415 ⚠	645 034 2363	CF RES 820OHM 1/4W +/-5%
R416	645 046 2870	CF RES 56OHM 1/4W +/-5%
R417 ⚠	645 046 3211	MOF RES 20OHM 3W +/-5%
R420	645 046 2986	CF RES 680OHM 1/2W +/-5%
R421	645 046 2207	CF RES 10KOHM 1/2W +/-5%
R422	645 040 8823	CF RES 620OHM 1/4W +/-5%
R423	645 034 2257	CF RES 47KOHM 1/4W +/-5%
R424	645 046 2412	CF RES 180KOHM 1/4W +/-5%
R425	645 040 8816	CF RES 470OHM 1/4W +/-5%
R427	645 045 9580	CF RES 1MOHM 1/4W +/-5%
R428	645 046 2603	CF RES 300KOHM 1/4W +/-5%
R429	645 046 3051	CF RES 8.2KOHM 1/2W +/-5%
R430	645 046 3440	MOF RES 6.8KOHM 1W +/-5%
R431 ⚠	645 046 3372	MOF RES 4.7KOHM 1W +/-5%
R433	645 034 1878	CF RES 10KOHM 1/4W +/-5%
R434	645 045 9733	CF RES 560KOHM 1/4W +/-5%
R435	645 046 2641	CF RES 330KOHM 1/4W +/-5%
R436	645 046 3471	MOF RES 82KOHM 3W +/-5%
R437	645 038 5360	CF RES 910OHM 1/4W +/-5%
R491	645 034 1991	CF RES 150KOHM 1/4W +/-5%
R901	645 046 2818	CF RES 470KOHM 1/2W +/-5%
R902	645 045 9924	W-W RES 3.9OHM 3W +/-5% 5MM
R903	645 046 3402	MOF RES 0.47OHM 1W +/-5%
R907	645 034 2547	CEMENT RES 10KOHM 5W +/-5% 5MM
R909 ⚠	645 034 2011	CF RES 22OHM 1/4W +/-5%
R911	645 034 1892	CF RES 100KOHM 1/4W +/-5%
R913	645 034 2455	MOF RES 1OHM 2W +/-5%
R914	645 034 1861	CF RES 1KOHM 1/4W +/-5%
R917	645 034 2042	CF RES 2.2KOHM 1/4W +/-5%
R918	645 040 8816	CF RES 470OHM 1/4W +/-5%
R919	645 034 1984	CF RES 15KOHM 1/4W +/-5%
R921	645 034 1892	CF RES 100KOHM 1/4W +/-5%
R923	645 034 2226	CF RES 47OHM 1/4W +/-5%
R924	645 034 1984	CF RES 15KOHM 1/4W +/-5%
R925	645 034 2271	CF RES 560OHM 1/4W +/-5%
R926	645 034 2387	CF RES 91OHM 1/4W +/-5%
R927	645 034 2288	CF RES 5.6KOHM 1/4W +/-5%
R930	645 034 1861	CF RES 1KOHM 1/4W +/-5%
R931	645 046 3389	MOF RES 47KOHM 2W +/-5%
R932	645 046 3389	MOF RES 47KOHM 2W +/-5%
	(SWITCH)	
SW201	645 046 0418	SLIDE SWITCH SS004-P012BJ-PA6

LOCATION	PARTS NO.	DESCRIPTION
	(TRANSFORMERS)	
T401	645 046 0777	DRIVE TRANS. VM-14AF
OR	645 046 0784	DRIVE TRANS. VM-14AF
OR	645 046 0791	DRIVE TRANS. VM-14AF
T402 ⚠	645 046 6007	FBT TRANS. CEM-15A CBC
T901 ⚠	645 046 5901	POWER TRANS. MM-12A VDE
OR ⚠	645 046 5925	POWER TRANS. MM-12A VDE
T902 ⚠	645 046 0920	LINE FILTER TM-14T 20MH
	(VARIABLE RESISTORS)	
VR301	645 046 4744	POT VR 100KOHM 6DIA.
VR302	645 046 0340	POT VR 500KOHM 6DIA.
VR303	645 046 4812	POT VR 50KOHM 6DIA.
VR401	645 034 3513	POT VR 5KOHM 6DIA.
VR402 ⚠	645 046 0340	POT VR 500KOHM 6DIA.
VR404	645 046 0326	POT VR 2MOHM15DIA.
	(MISCELLANEORS)	
	645 034 4404	FUSE CLIP BOARD TYPE 5*20MM (F901)
OR	645 034 4404	FUSE CLIP BOARD TYPE 5*20MM (F901)
B301	645 034 3773	CONNECTOR BASE M241855
B401	645 046 0395	CONNECTOR BASE M11384
B901	645 046 4997	CONNECTOR BASE M241835-X
B902	645 034 3735	CONNECTOR BASE M241833-X
BNC02	645 034 3674	CONNECTOR BASE M241852

VIDEO BOABD MT-15S

645 047 9540

LOCATION	PARTS NO.	DESCRIPTION
	(CAPACITORS)	
C201	645 034 2684	EC CAP 22UF 16 V
C202	645 034 2714	EC CAP 220UF 16 V
C203	645 034 2714	EC CAP 220UF 16 V
C204	645 046 3594	EC CAP 1000UF 10 V
C205	645 046 0012	CC CAP 272PF 50V Y5P
C206	645 034 2608	EC CAP 100UF 16 V
C213	645 045 9986	EC CAP 4.7UF 160 V
C219	645 043 3139	CC CAP 103PF 1.5KV Z5U
C220	645 046 4171	MEF CAP .47UF 100V +/-5%
	(DIODE)	
D201	645 034 3377	RECTIFIER DIODE 1N4003
	(COIL)	
L201	645 046 0913	PEAKING COIL 4.7 UH +/-10%
	(SEMICONDUCTORS)	
Q201	645 034 3216	TR 2SC1815GR
Q203	645 046 0203	TR 2SD667C
Q204	645 046 0197	TR 2SD1609C
	(RESISTORS)	
R202	645 034 2059	CF RES 22KOHM 1/4W +/-5%
R203 ⚠	645 034 1984	CF RES 15KOHM 1/4W +/-5%
R204	645 045 9566	CF RES 100OHM 1/4W +/-5%
R206	645 034 2165	CF RES 390OHM 1/4W +/-5%
R210	645 034 2226	CF RES 47OHM 1/4W +/-5%
R211	645 034 1847	CF RES 10OHM 1/4W +/-5%
R212	645 034 1984	CF RES 15KOHM 1/4W +/-5%
R213	645 034 2103	CF RES 2.7KOHM 1/4W +/-5%
R214	645 046 2535	CF RES 27OHM 1/4W +/-5%
R215	645 046 2979	CF RES 68OHM 1/4W +/-5%
R216	645 034 1977	CF RES 1.5KOHM 1/4W +/-5%
R217	645 034 1977	CF RES 1.5KOHM 1/4W +/-5%
R218	645 046 3266	MOF RES 2.4KOHM 2W +/-5%
R219	645 034 2028	CF RES 220OHM 1/4W +/-5%
R220	645 046 2955	CF RES 6.2OHM 1/2W +/-5%
R230	645 046 3433	MOF RES 56KOHM 1/2W +/-5%
R231	645 045 9702	CF RES 47KOHM 1/2W +/-5%
R232	645 045 9573	CF RES 1KOHM 1/2W +/-5%
	(SPARK GAPS)	
SP201	645 035 9408	SPARK GAP DSP 200V +/-10%
SP202	645 035 9392	SPARK GAP 0.75PF 1KV +/-10%
	(MISCELLANEOUS)	
S201	645 046 0524	CRT SOCKET CRT 7PIN 20DIA.
B201	645 046 0388	CONNECTOR BASE M241854
B202	645 034 3773	CONNECTOR BASE M241855
B203	645 046 5000	CONNECTOR BASE M241856-X
B204	645 034 3674	CONNECTOR BASE M241852
GND	645 034 3667	CONNECTOR BASE P235142

LOCATION		PARTS NO.	DESCRIPTION

VR ASS'Y MT-15S

		645 046 6496	
		(LED)	
LED1		645 046 0296	LED 5DIA.
		(SWITCH)	
SW202		645 046 0425	ROTARY SWITCH 296S0947B
SW901	⚠	645 034 3810	POWER SWITCH SS-160-7
		(VARIABLE RESISTORS)	
VR406	⚠	645 046 0319	VR 200KOHM 9DIA. 10 MMND F 15
VR201	⚠	645 046 0302	VR 500OHM 9DIA. 10 MMND F 15
		(MISCELLANEOUS)	
B703		645 046 0388	CONNECTOR BASE M241854

ACCESSORIES

LOCATION		PARTS NO.	DESCRIPTION
		645 046 0463	USER MANUAL CCTV [VM-6614]
		645 047 0615	USER MANUAL CCTV [VM-6615P(AU), (UK), (XE)]
	⚠	645 038 5933	POWER CORD NS8-5175N [VM-6614]
	⚠	645 034 3971	POWER CORD 10-1 VDE [VM-6615P(XE)]
	⚠	645 040 9257	POWER CORD NS8-5180N (AUSTRALIA) [VM-6615P(AU)]
	⚠	645 040 9264	POWER CORD NS8-5181N(U.K.) [VM-6615P(UK)]
		645 035 6254	PE BAG 15" 406*406*900MM
		645 034 4336	POLYFORM CM-14A
		645 046 5161	CARTON MT-15S-EIA [VM-6614]
		645 047 0592	CARTON MT-15S-CCIR [VM-6615P(AU), (UK), (XE)]

FILE NO.

SERVICE MANUAL

B/W Video Monitor

VM-6614

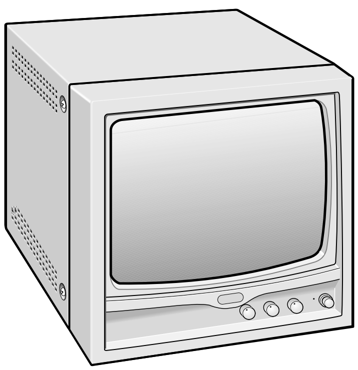
(Product Code : 114 901 31)
(U.S.A, Canada)

VM-6615P

(Product Code : 114 901 34)
(Europe)

(Product Code : 114 901 36)
(U.K.)

(Product Code : 114 901 38)
(Australia)



CONTENTS

NOTE: 1. Parts order must contain model number, part number, and description.
2. Substitute parts may be supplied as the service parts.
3. N.S.P. : Not available as service parts.

Design and specifications are subject to change without notice.

L8MAC/US,XE,UK,AU

REFERENCE No.SM5310264

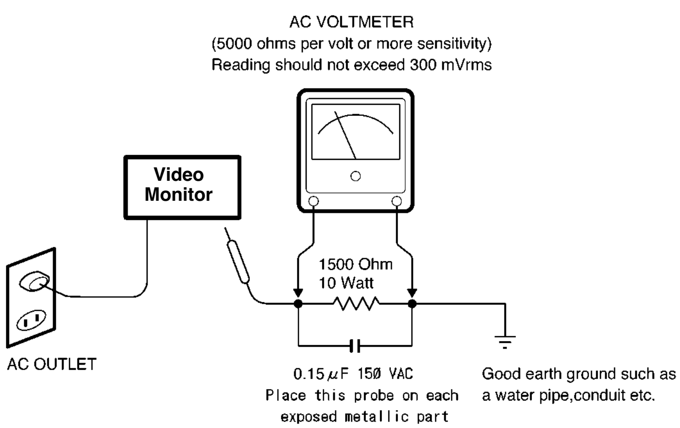
SAFETY PRECAUTIONS

WARNING:

Service should not be attempted by anyone unfamiliar with the necessary precautions for this recording or playback equipment. The following precautions are necessary during servicing:

1. Many electrical and mechanical parts in this recorder have special safety-related characteristics for providing protection against shock, fire and other hazards. These characteristics often go unnoticed in a visual inspection, and the protection afforded by them cannot necessarily be obtained by using replacement components with higher ratings (voltage, wattage, etc.).

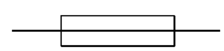
2. Replacement parts having special safety-related characteristics are identified in this manual, and in the schematic diagrams, by the symbol ⚠. These components have values that are of special significance to product safety. Should any component (identified by the symbol ⚠) need to be replaced, use only the part designated in the parts List. Do not deviate from the specified resistance, wattage, and voltage ratings.



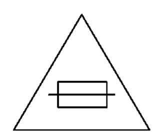
Voltmeter Hook-up for Leakage Current Check

3. Before returning the set to the customer, always perform an AC leakage current check on the exposed metallic parts of the cabinet, such as terminals, screwheads, metal overlays, etc. to be sure that the set is safe to operate without the danger of electrical shock, Plug the AC line cord directly into a 120 V AC outlet. (Do not use a line isolation transformer during this check.) Use an AC voltmeter with a sensitivity of 5000 ohms per volt (or more) as follows: Connect a 1500 ohms, 10 watt resistor, paralleled by a 0.15 mfd, 150 VAC capacitor, between a known good earth ground (water pipe, conduit, etc.) and the exposed metallic parts, one at a time. Measure the AC voltage across the 1500 ohms resistor and 0.15 mfd capacitor combination. Reverse the AC plug at the AC outlet and repeat the AC voltage measurements for each exposed metallic part. The measured voltage must not exceed 300 mVrms. This corresponds to 200 μA AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.

4. Fuse symbol marks.
   For CANADA



For U.S.A.



Fuse rating is marked at adjacent fuse.

UNDERWRITERS LABORATORIES Standard

CAUTION "Risk of fire-replace fuse as marked"

SPECIFICATIONS

VM-6614

System :	EIA standard
Picture tube :	15″ measured diagonally, 90° deflection angle
Resolution :	More than 1000 TV lines (center)
Scanning frewuency :	Horizontal: 15.75 kHz (EIA), Vertical: 60 Hz (EIA)
Input terminals :	
VIDEO A	Composite video: 1 line, BNC connector, 1.0 V p-p 75 ohm negative sync
VIDEO B	Composite video: 1 line, BNC connector, 1.0 V p-p 75 ohm negative sync
Outout terminals :	
VIDEO A	Composite video: 1 line, BNC connector, 1.0 V p-p 75 ohm negative sync
VIDEO B	Composite video: 1 line, BNC connector, 1.0 V p-p 75 ohm negative sync
Sub Adjusting control :	Sub bright volume
	Vertical size volume
	Vertical hold volume
Termination switch :	Manual switchable, Hi/ 75 ohm (Lo)
Operating environment :	Temperature: -10 °**C** to 40 °**C**, Humidity:10% to 90 %
Power source :	AC 100 to 240 V 50/60 Hz
Power consumption :	35 Watts
Dimension (W x H x D) :	350 x 350 x 360 mm
Weight :	11 kg

VM-6615P

System :	CCIR standard
Picture tube :	15″ measured diagonally, 90° deflection angle
Resolution :	More than 1000 TV lines (center)
Scanning frewuency :	Horizontal: 15.625 kHz (CCIR), Vertical: 50 Hz (CCIR)
Input terminals :	
VIDEO A	Composite video: 1 line, BNC connector, 1.0 V p-p 75 ohm negative sync
VIDEO B	Composite video: 1 line, BNC connector, 1.0 V p-p 75 ohm negative sync
Outout terminals :	
VIDEO A	Composite video: 1 line, BNC connector, 1.0 V p-p 75 ohm negative sync
VIDEO B	Composite video: 1 line, BNC connector, 1.0 V p-p 75 ohm negative sync
Sub Adjusting control :	Sub bright volume
	Vertical size volume
	Vertical hold volume
Termination switch :	Manual switchable, Hi/ 75 ohm (Lo)
Operating environment :	Temperature: -10 °**C** to 40 °**C**, Humidity:10% to 90 %
Power source :	AC 100 to 240 V 50/60 Hz
Power consumption :	35 Watts
Dimension (W x H x D) :	350 x 350 x 360 mm
Weight :	11 kg

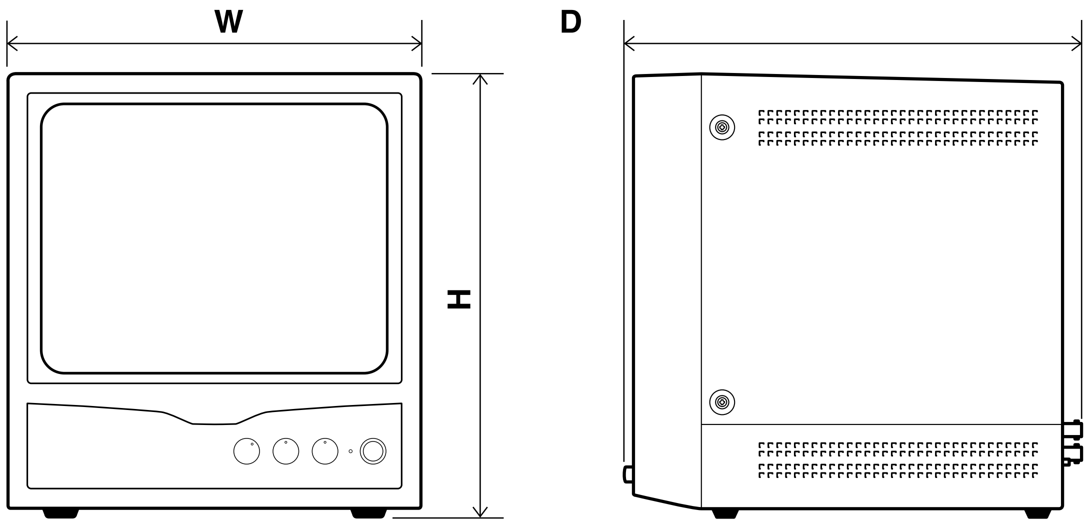


Fig. 1

DISASSEMBLY

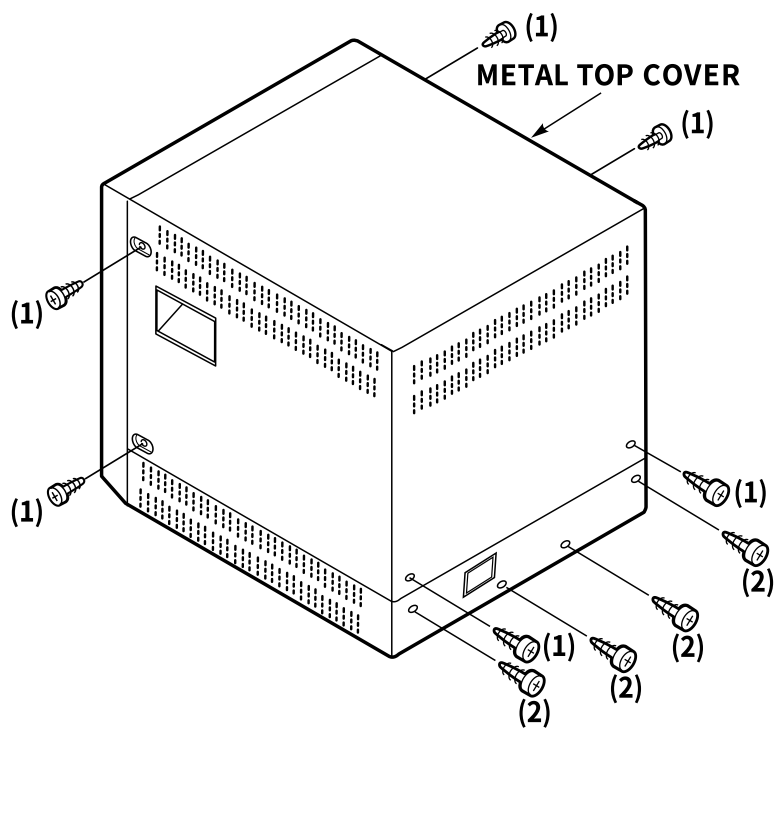


Fig. 2

1. OPERATING INSTRUCTIONS
1-1. FRONT PANEL CONTROLS

1. Monitor Selector Switch (VIDEO A/B)
Turn this Monitor selector switch A position for a signal fed through the rear panel VIDEO A connectors.
Then, turn this Monitor selector switch B position for a signal fed through the rear panel VIDEO B connectors.

2. Contrast Control (◑ CONTRAST)
Turn to adjust picture contrast according to your requirement.

3. Brightness Control (☼ BIRGHT)
Turn to adjust picture brightness according to your requirement.

4. Power Indicator
Lights when the power is on.
Lit: When the power is on.
Unlit: When the power is off.

5. Power Switch (POWER)
Press this switch to turn the power on or off.

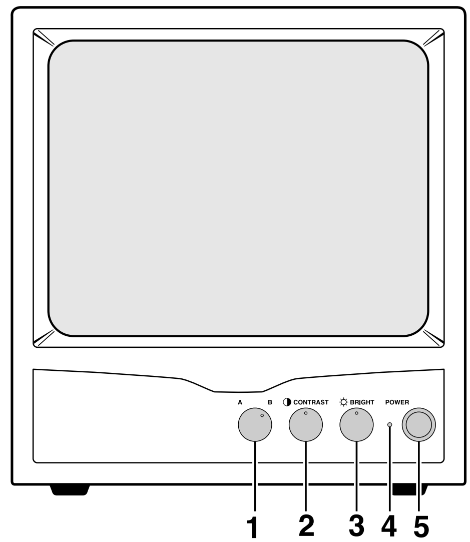


Fig. 3

1-2. REAR PANEL CONTROLS & CONNECTION

1. AC input socket (AC INPUT)
Connect the AC power cord (supplied) securely to this socket and to a wall outlet.

2. Video input terminals (VIDEO IN)
These terminals are used to input a video signal source to this monitor.
Connect to the video output of a VCR or another monitor (for loop through connection) or to a video camera.

3. Video output terminals (VIDEO OUT)
These terminals are used to output a video signal for this monitor.
Loop-through output of the video in BNC connector, then connect to the video input of another monitor or a VCR.

4. Termination Switch (HI/75 Ω (Lo))
Select the input impedance (HI/75 ohm).
When using only one monitor, turn the termination switch to the 75 ohm position. When using more than one monitor, set all of the termination switch to the monitors to the HI position.
However, the last monitor termination switch should be the 75 ohm position for proper line termination.

6. Sub-brightness control (SUB-BRI)
Turn to adjust picture brightness.

7. Vertical Size control (V-SIZE)
Turn to adjust picture vertical size of the picture.

8. Vertical hold control (V-HOLD)
If the picture is scrolling up or down on the screen, turn this control until there is a single steady picture.

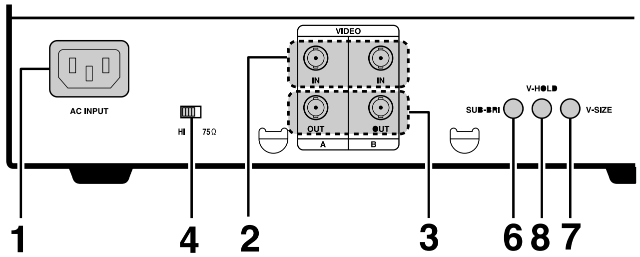


Fig. 4

■ Single Connection

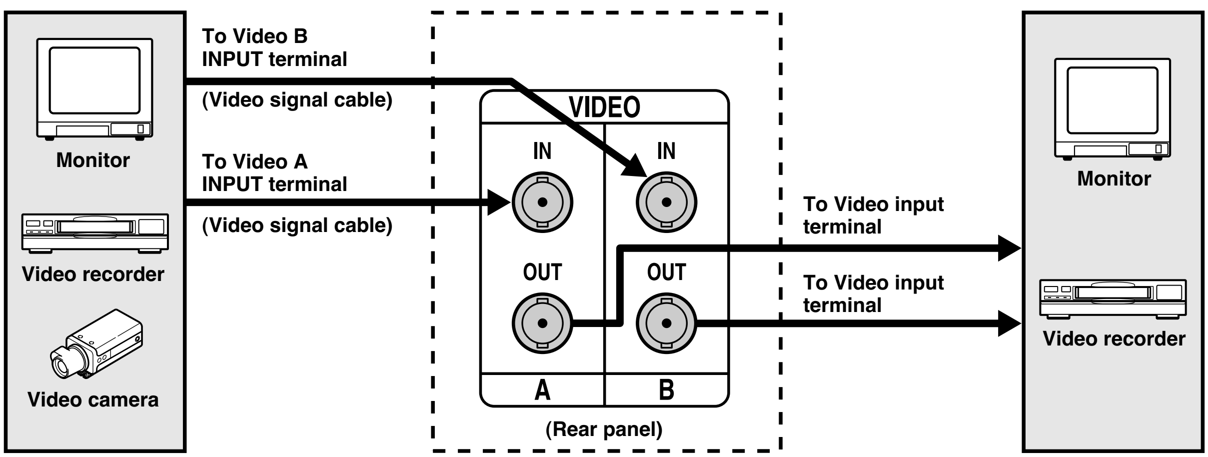


Fig. 5

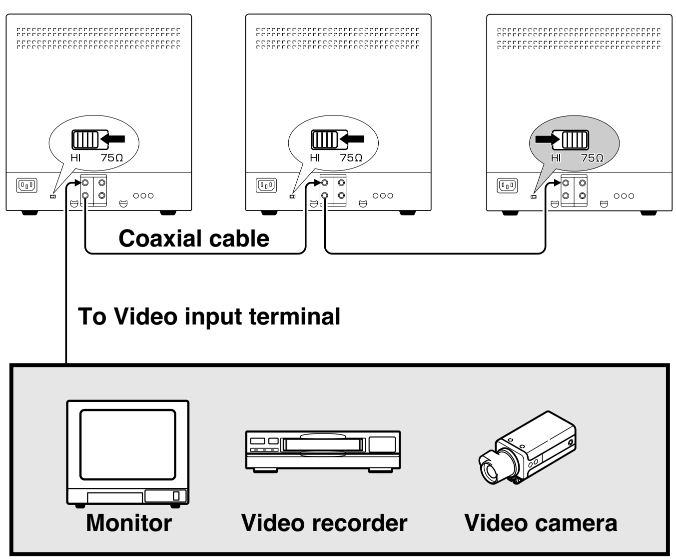


Fig. 6

2. SERVICE ADJUSTMENTS

ADJUSTMENT ITEM	TIMING PATTERN	SETTING	VR LOCATION	ADJUSTMENT PROCEDURE
VERTICAL LINEARITY ADJUSTMENT	PATTERN GENERATOR MODE CROSS-HATCHED PATTERN	CONTRAST VR AND BRIGHT VR TO CENTER.	VR303	Adjust VR303 to make equal distance between top-center and bottom-center.
HORIZONTAL HOLD AD-JUSTMENT	PATTERN GENERATOR MODE CROSS-HATCHED PATTERN	CONTRAST VR AND BRIGHT VR TO CENTER.	VR401	Turn off horizontal sync. (pin to ground) Adjust VR401 to make pattern upright.
GEOMETRICE DISTORTION PATTERN ADJUSTMENT	PATTERN GENERATOR MODE CROSS-HATCHED PATTERN	CONTRAST VR AND BRIGHT VR TO CENTER.		Adjust eigth magnets on the deflection yoke make picture to the best condition.
VIDEO CENTERING ADJUSTMENT	PATTERN GENERATOR MODE MONOSCPE PATTERN	CONTRAST VR AND BRIGHT VR TO CENTER.		The video is centered by roating the two small at the rear of the yoke.
VIDEO TILT ADJUSTMENT	PATTERN GENERATOR MODE CROSS-HATCHED PATTERN	CONTRAST VR AND BRIGHT VR TO CENTER.		Loosen the screw on the rear of deflection yoke, rotating the yoke to correct position tighten the screw.
HORIZONTAL WIDTH AD-JUSTMENT	PATTERN GENERATOR MODE MONOSCPE PATTERN	CONTRAST VR AND BRIGHT VR TO CENTER.	L402	Adjust L402 to make picture width within "2" position.
VERTICAL SIZE ADJUST-MENT	PATTERN GENERATOR MODE MONOSCPE PATTERN	CONTRAST VR AND BRIGHT VR TO CENTER.	VR302	Adjust VR302 make height to "1.5" position.
VERTICAL HOLD AD-JUSTMENT	PATTERN GENERATOR MODE MONOSCPE PATTERN	CONTRAST VR AND BRIGHT VR TO CENTER.	VR301	Adjust VR301 to make pattern stop rolling.
NTERLACE ADJUSTMENT	CAMERA SIGNAL	CONTRAST VR AND BRIGHT VR TO CENTER.	VR301	Adjust VR301 have gap of vertical scan line distinguish clearly.
RASTER ADJUSTMENT	DISCONNECT VIDEO SIGNAL AND PATTERN GENERATOR MODE FULL-WHITE PATTERN	CONTRAST VR AND BRIGHT VR TO MAX.	VR402	Adjust VR402 to the suitable brightness.
FOCUS ADJUSTMENT	PATTERN GENERATOR MODE MONOSCPE PATTERN	CONTRAST VR AND BRIGHT VR TO CENTER.	VR404	Adjust VR404 have control picture and 4 corners to be distinguished.

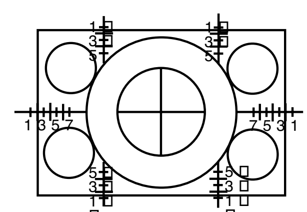


Fig. 7

MAIN BOARD
(Foil side)

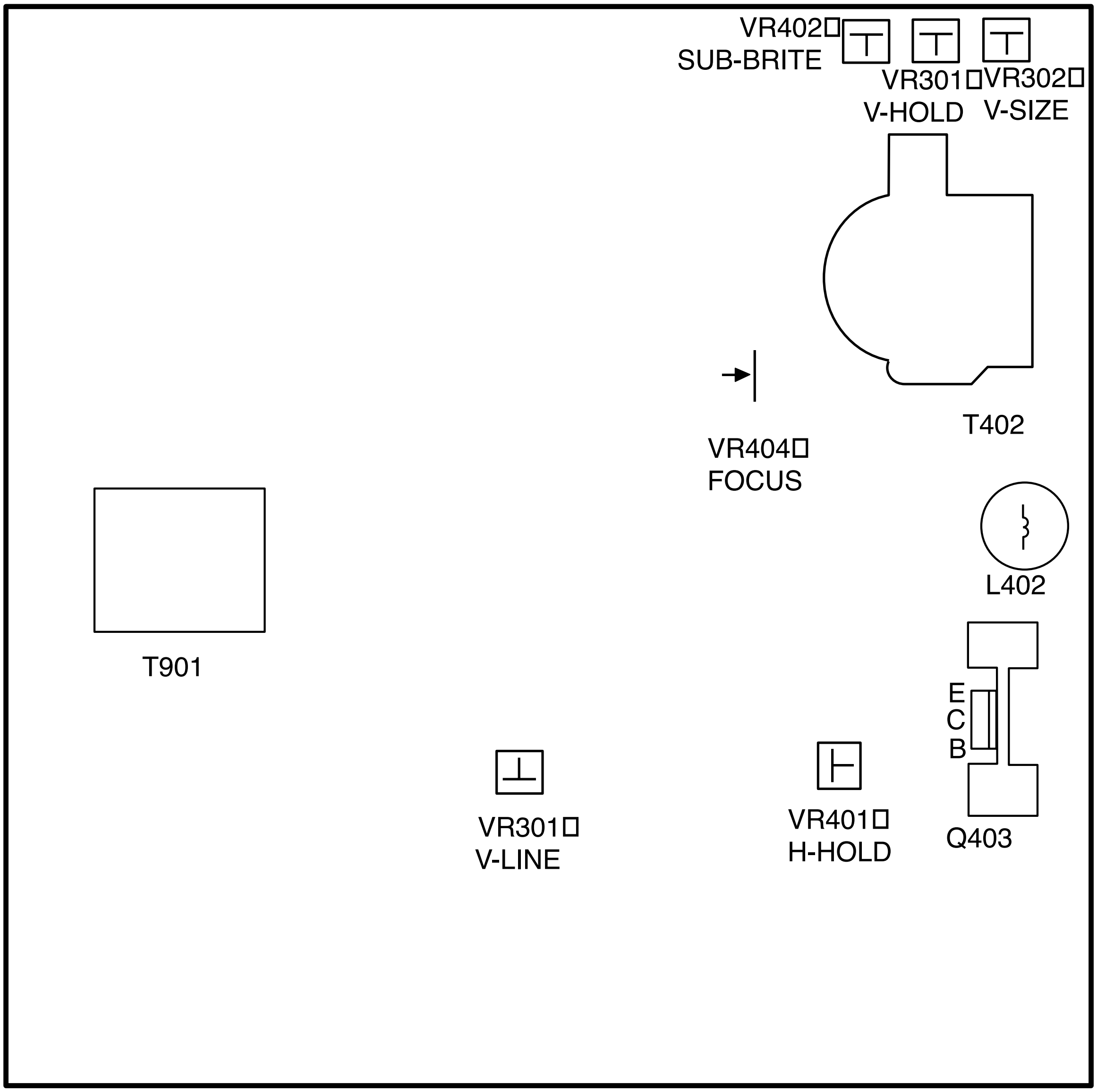


Fig. 8

VR BOARD
(Foil side)

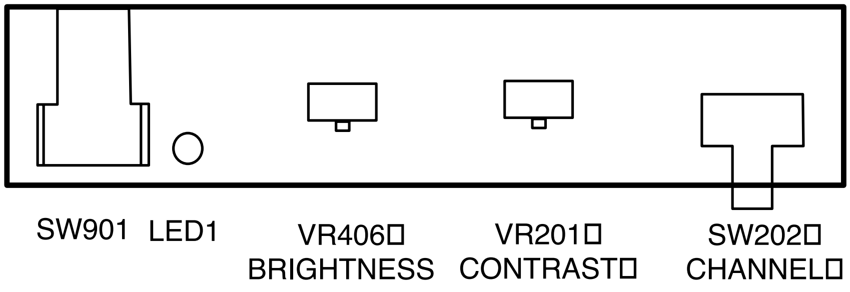
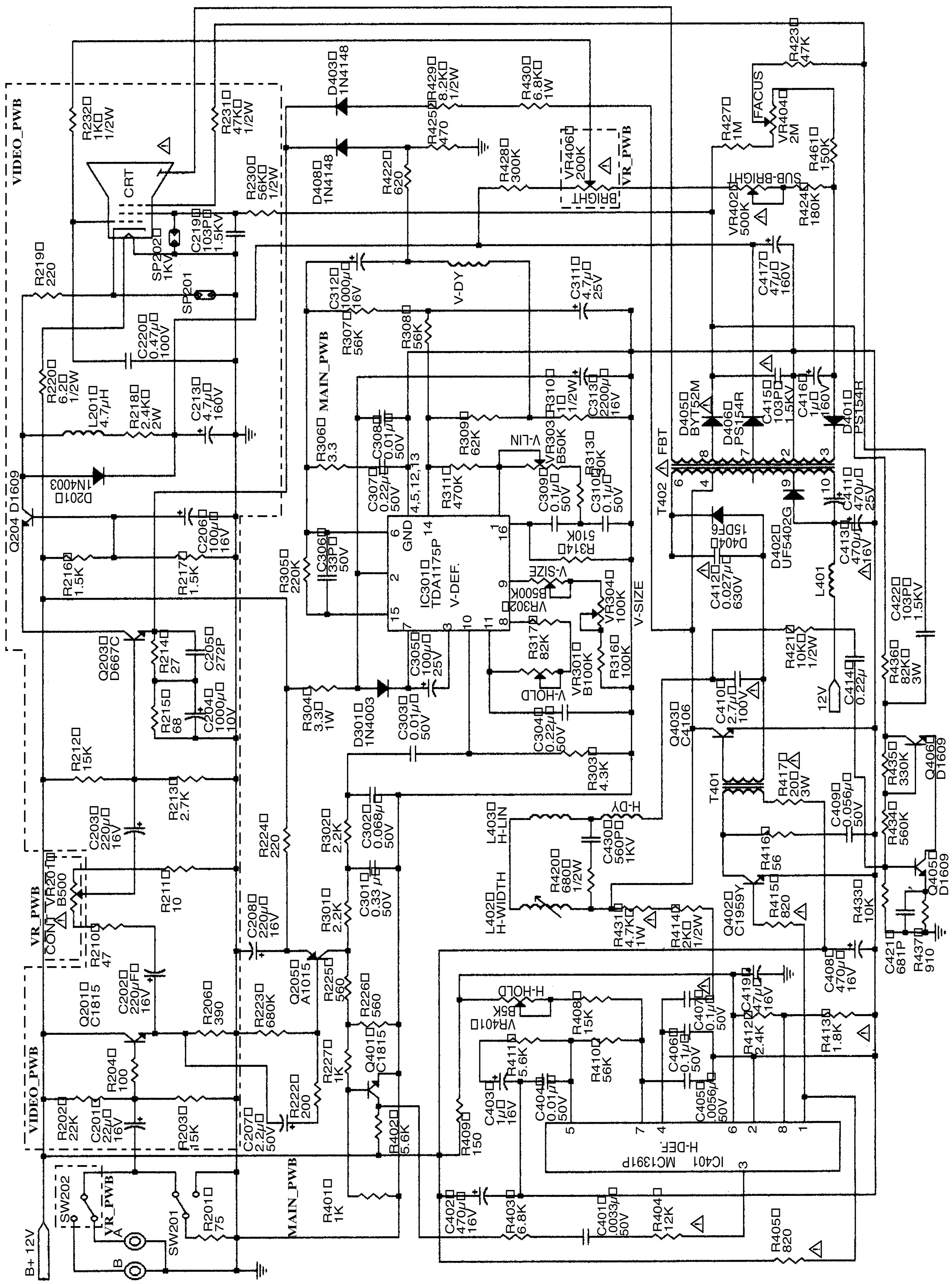
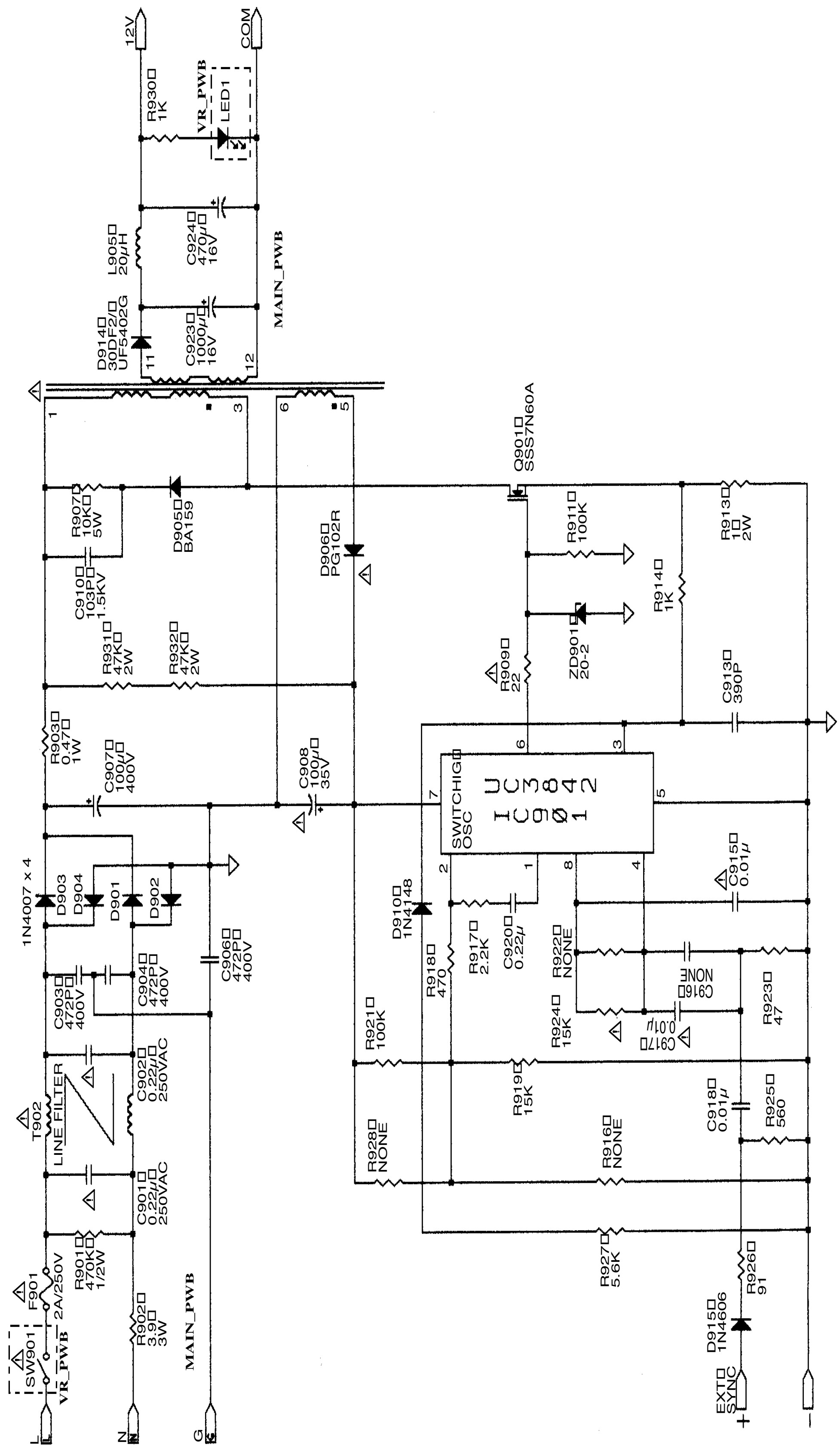


Fig. 9

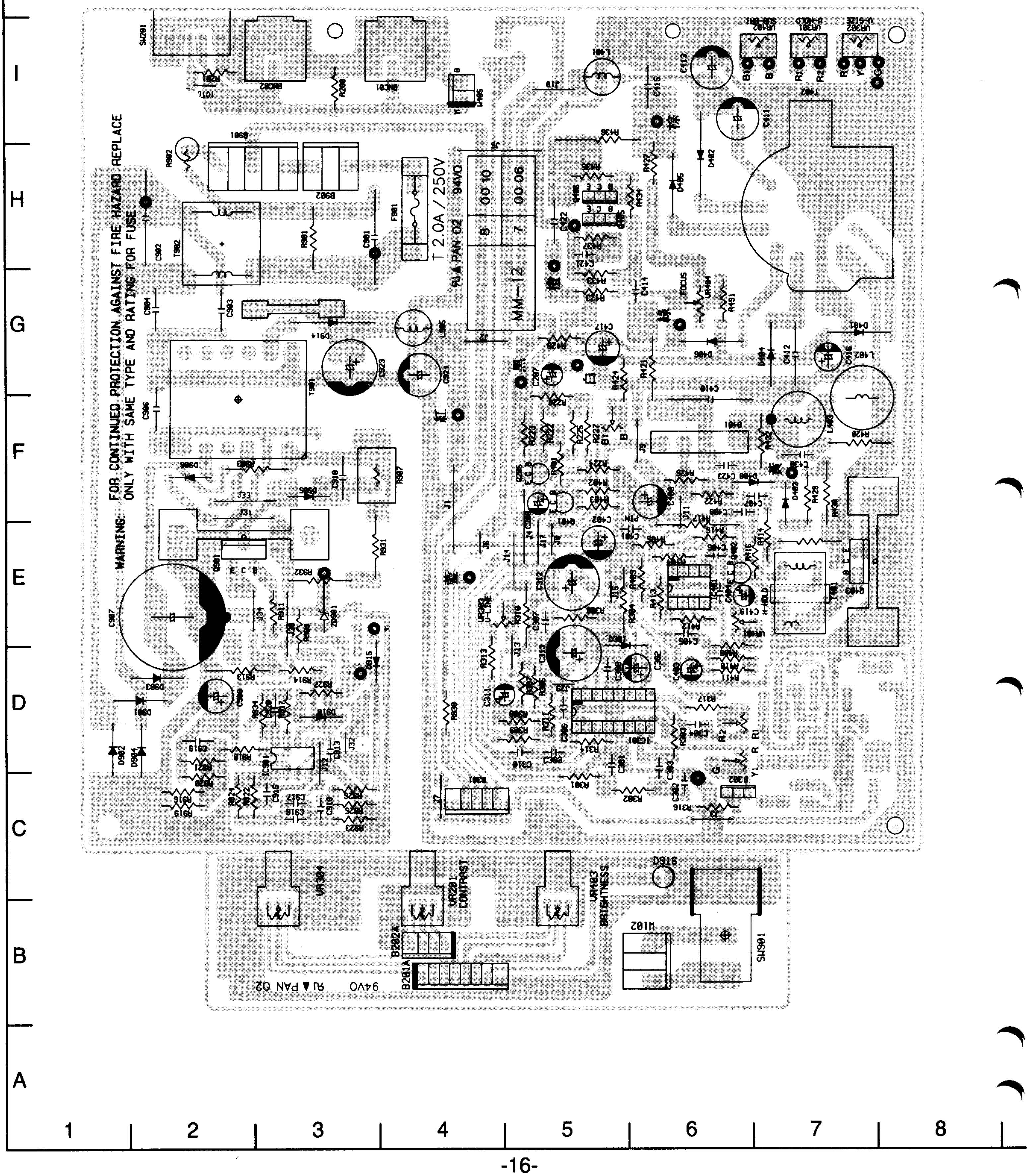
MAIN CIRCUIT DIAGRAM



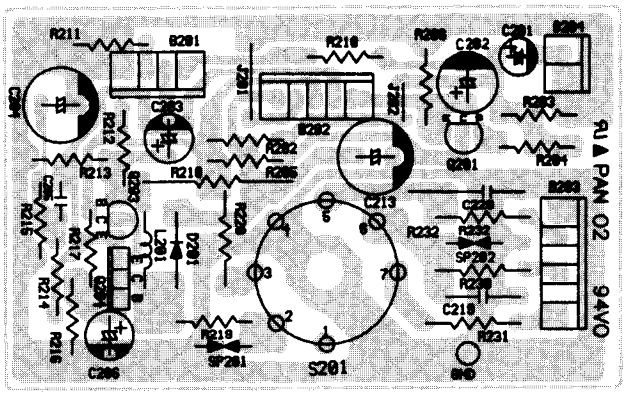
POWER CIRCUIT DIAGRAM



MAIN PWB
VR PWB



VIDEO PWB



K	J	I	H	G	F	E	D	C	B	A

1	2	3	4	5	6	7	8

SANYO Electric Co.,Ltd.
Osaka, Japan

Mar./ '01 / 2300 MI Printed in Japan

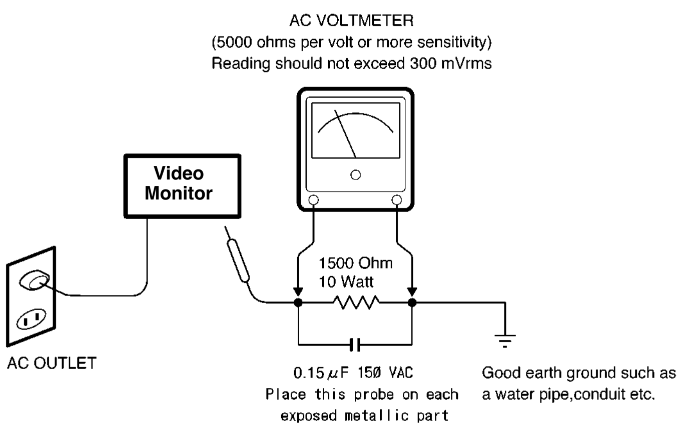
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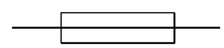
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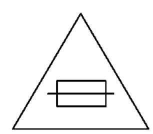
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4. Fuse symbol marks.
   For CANADA



For U.S.A.



Fuse rating is marked at adjacent fuse.

UNDERWRITERS LABORATORIES Standard

CAUTION "Risk of fire-replace fuse as marked"

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Sub Adjusting control :	Sub bright volume
	Vertical size volume
	Vertical hold volume
Termination switch :	Manual switchable, Hi/ 75 ohm (Lo)
Operating environment :	Temperature: -10 °**C** to 40 °**C**, Humidity:10% to 90 %
Power source :	AC 100 to 240 V 50/60 Hz
Power consumption :	35 Watts
Dimension (W x H x D) :	350 x 350 x 360 mm
Weight :	11 kg

VM-6615P

System :	CCIR standard
Picture tube :	15″ measured diagonally, 90° deflection angle
Resolution :	More than 1000 TV lines (center)
Scanning frewuency :	Horizontal: 15.625 kHz (CCIR), Vertical: 50 Hz (CCIR)
Input terminals :	
VIDEO A	Composite video: 1 line, BNC connector, 1.0 V p-p 75 ohm negative sync
VIDEO B	Composite video: 1 line, BNC connector, 1.0 V p-p 75 ohm negative sync
Outout terminals :	
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Sub Adjusting control :	Sub bright volume
	Vertical size volume
	Vertical hold volume
Termination switch :	Manual switchable, Hi/ 75 ohm (Lo)
Operating environment :	Temperature: -10 °**C** to 40 °**C**, Humidity:10% to 90 %
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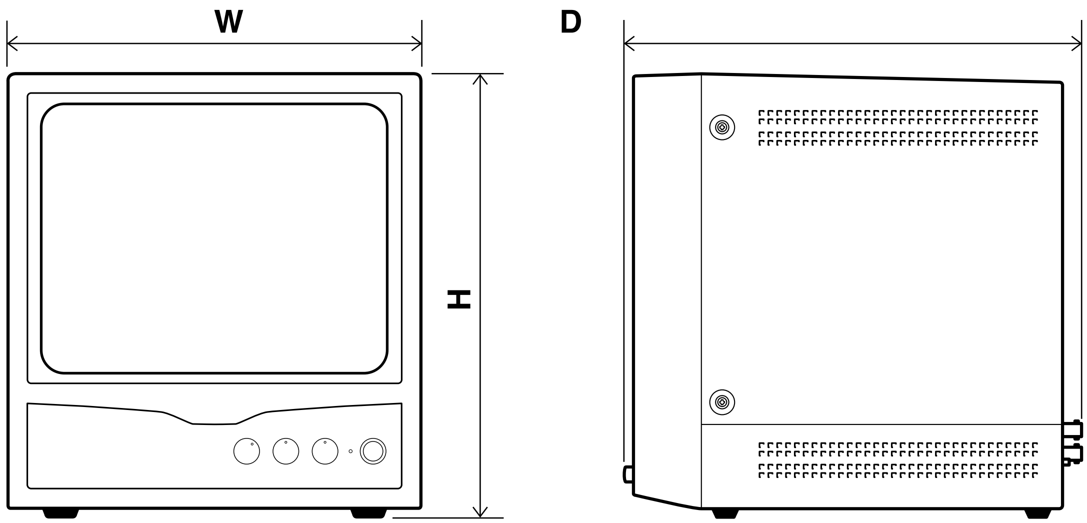


Fig. 1

DISASSEMBLY

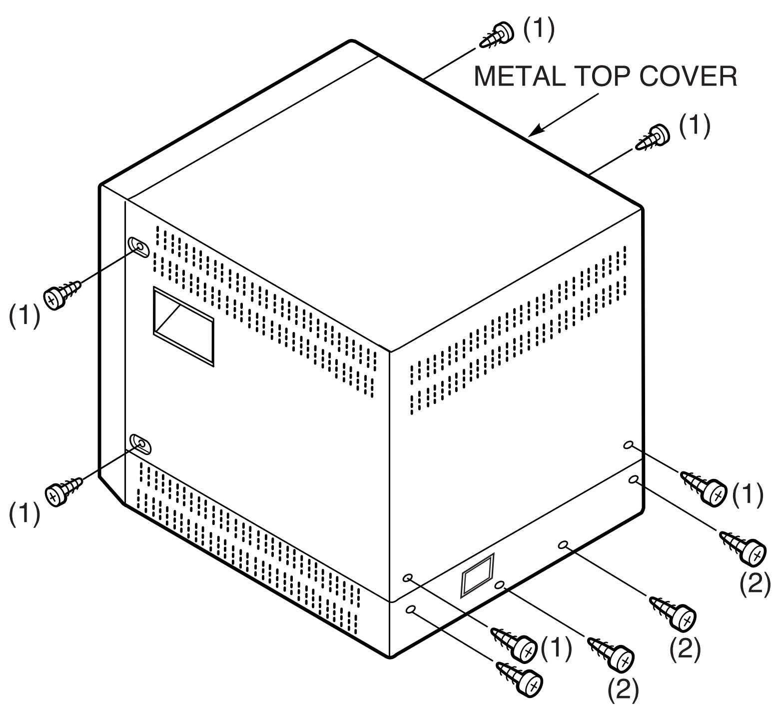


Fig. 2

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1-1. FRONT PANEL CONTROLS

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Then, turn this Monitor selector switch B position for a signal fed through the rear panel VIDEO B connectors.

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Turn to adjust picture contrast according to your requirement.

3. Brightness Control (☼ BIRGHT)

Turn to adjust picture brightness according to your requirement.

4. Power Indicator

Lights when the power is on.
Lit: When the power is on.
Unlit: When the power is off.

5. Power Switch (POWER)

Press this switch to turn the power on or off.

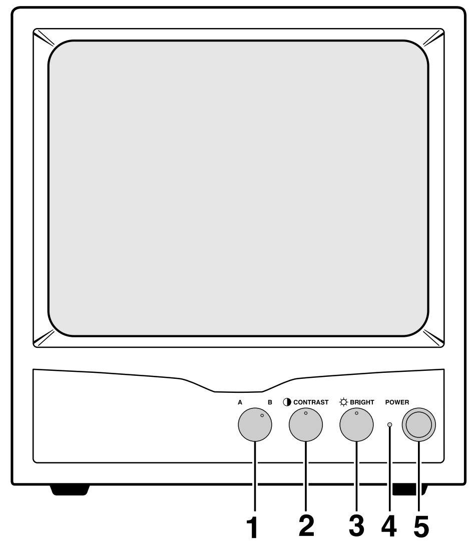


Fig. 3

1-2. REAR PANEL CONTROLS & CONNECTION

1. AC input socket (AC INPUT)

Connect the AC power cord (supplied) securely to this socket and to a wall outlet.

2. Video input terminals (VIDEO IN)

These terminals are used to input a video signal source to this monitor.
Connect to the video output of a VCR or another monitor (for loop through connection) or to a video camera.

3. Video output terminals (VIDEO OUT)

These terminals are used to output a video signal for this monitor.
Loop-through output of the video in BNC connector, then connect to the video input of another monitor or a VCR.

4. Termination Switch (HI/75 Ω (Lo))

Select the input impedance (HI/75 ohm).
When using only one monitor, turn the termination switch to the 75 ohm position. When using more than one monitor, set all of the termination switch to the monitors to the HI position.
However, the last monitor termination switch should be the 75 ohm position for proper line termination.

6. Sub-brightness control (SUB-BRI)

Turn to adjust picture brightness.

7. Vertical Size control (V-SIZE)

Turn to adjust picture vertical size of the picture.

8. Vertical hold control (V-HOLD)

If the picture is scrolling up or down on the screen, turn this control until there is a single steady picture.

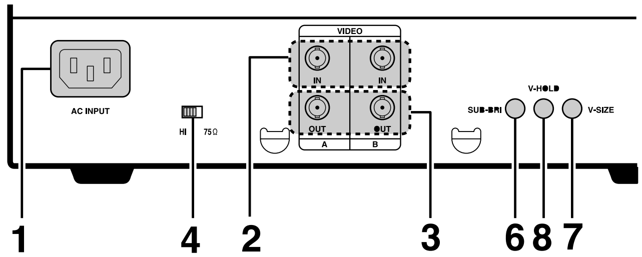


Fig. 4

■ Single Connection

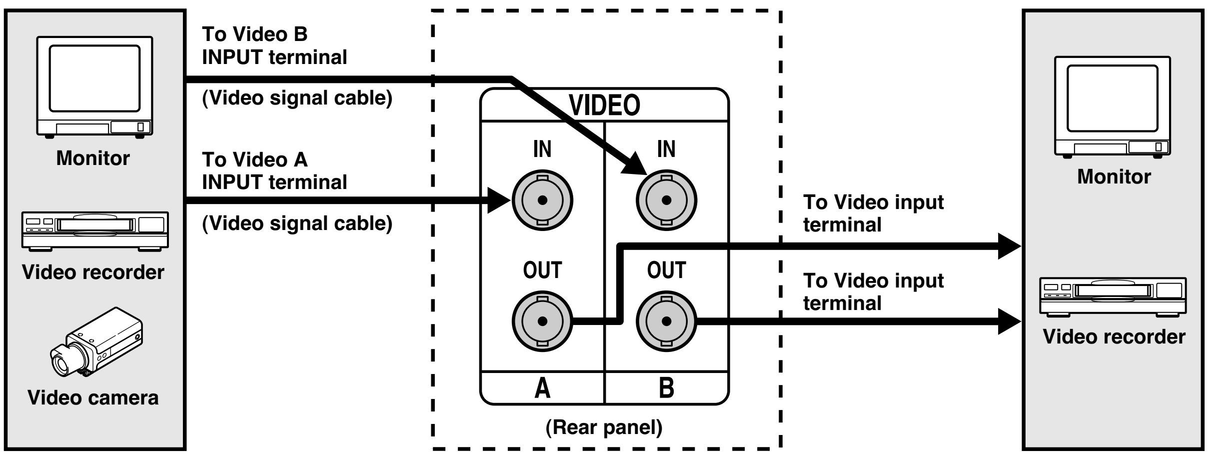


Fig. 5

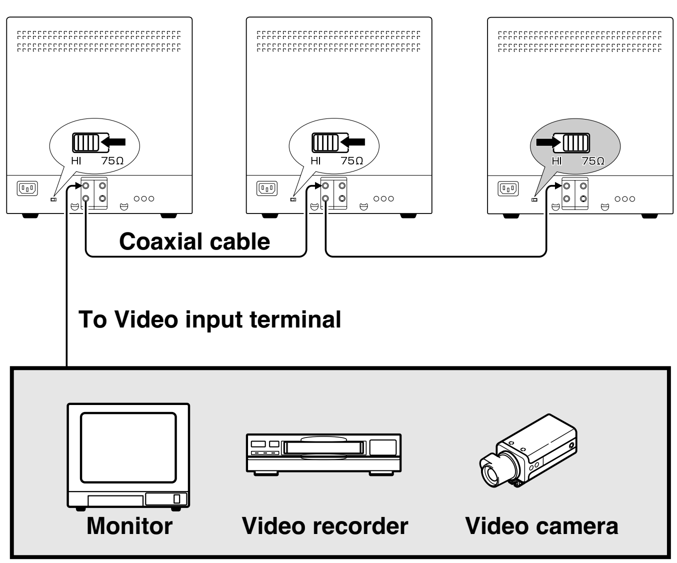


Fig. 6

2. SERVICE ADJUSTMENTS

ADJUSTMENT ITEM	TIMING PATTERN	SETTING	VR LOCATION	ADJUSTMENT PROCEDURE
VERTICAL LINEARITY ADJUSTMENT	PATTERN GENERATOR MODE CROSS-HATCHED PATTERN	CONTRAST VR AND BRIGHT VR TO CENTER.	VR303	Adjust VR303 to make equal distance between top-center and bottom-center.
HORIZONTAL HOLD AD-JUSTMENT	PATTERN GENERATOR MODE CROSS-HATCHED PATTERN	CONTRAST VR AND BRIGHT VR TO CENTER.	VR401	Turn off horizontal sync. (pin to ground) Adjust VR401 to make pattern upright.
GEOMETRICE DISTORTION PATTERN ADJUSTMENT	PATTERN GENERATOR MODE CROSS-HATCHED PATTERN	CONTRAST VR AND BRIGHT VR TO CENTER.		Adjust eigth magnets on the deflection yoke make picture to the best condition.
VIDEO CENTERING ADJUSTMENT	PATTERN GENERATOR MODE MONOSCPE PATTERN	CONTRAST VR AND BRIGHT VR TO CENTER.		The video is centered by roating the two small at the rear of the yoke.
VIDEO TILT ADJUSTMENT	PATTERN GENERATOR MODE CROSS-HATCHED PATTERN	CONTRAST VR AND BRIGHT VR TO CENTER.		Loosen the screw on the rear of deflection yoke, rotating the yoke to correct position tighten the screw.
HORIZONTAL WIDTH AD-JUSTMENT	PATTERN GENERATOR MODE MONOSCPE PATTERN	CONTRAST VR AND BRIGHT VR TO CENTER.	L402	Adjust L402 to make picture width within "2" position.
VERTICAL SIZE ADJUST-MENT	PATTERN GENERATOR MODE MONOSCPE PATTERN	CONTRAST VR AND BRIGHT VR TO CENTER.	VR302	Adjust VR302 make height to "1.5" position.
VERTICAL HOLD AD-JUSTMENT	PATTERN GENERATOR MODE MONOSCPE PATTERN	CONTRAST VR AND BRIGHT VR TO CENTER.	VR301	Adjust VR301 to make pattern stop rolling.
NTERLACE ADJUSTMENT	CAMERA SIGNAL	CONTRAST VR AND BRIGHT VR TO CENTER.	VR301	Adjust VR301 have gap of vertical scan line distinguish clearly.
RASTER ADJUSTMENT	DISCONNECT VIDEO SIGNAL AND PATTERN GENERATOR MODE FULL-WHITE PATTERN	CONTRAST VR AND BRIGHT VR TO MAX.	VR402	Adjust VR402 to the suitable brightness.
FOCUS ADJUSTMENT	PATTERN GENERATOR MODE MONOSCPE PATTERN	CONTRAST VR AND BRIGHT VR TO CENTER.	VR404	Adjust VR404 have control picture and 4 corners to be distinguished.

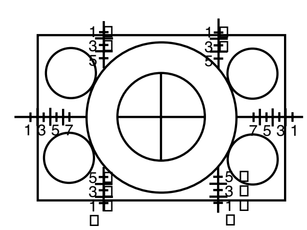


Fig. 7

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MAIN BOARD
(Foil side)

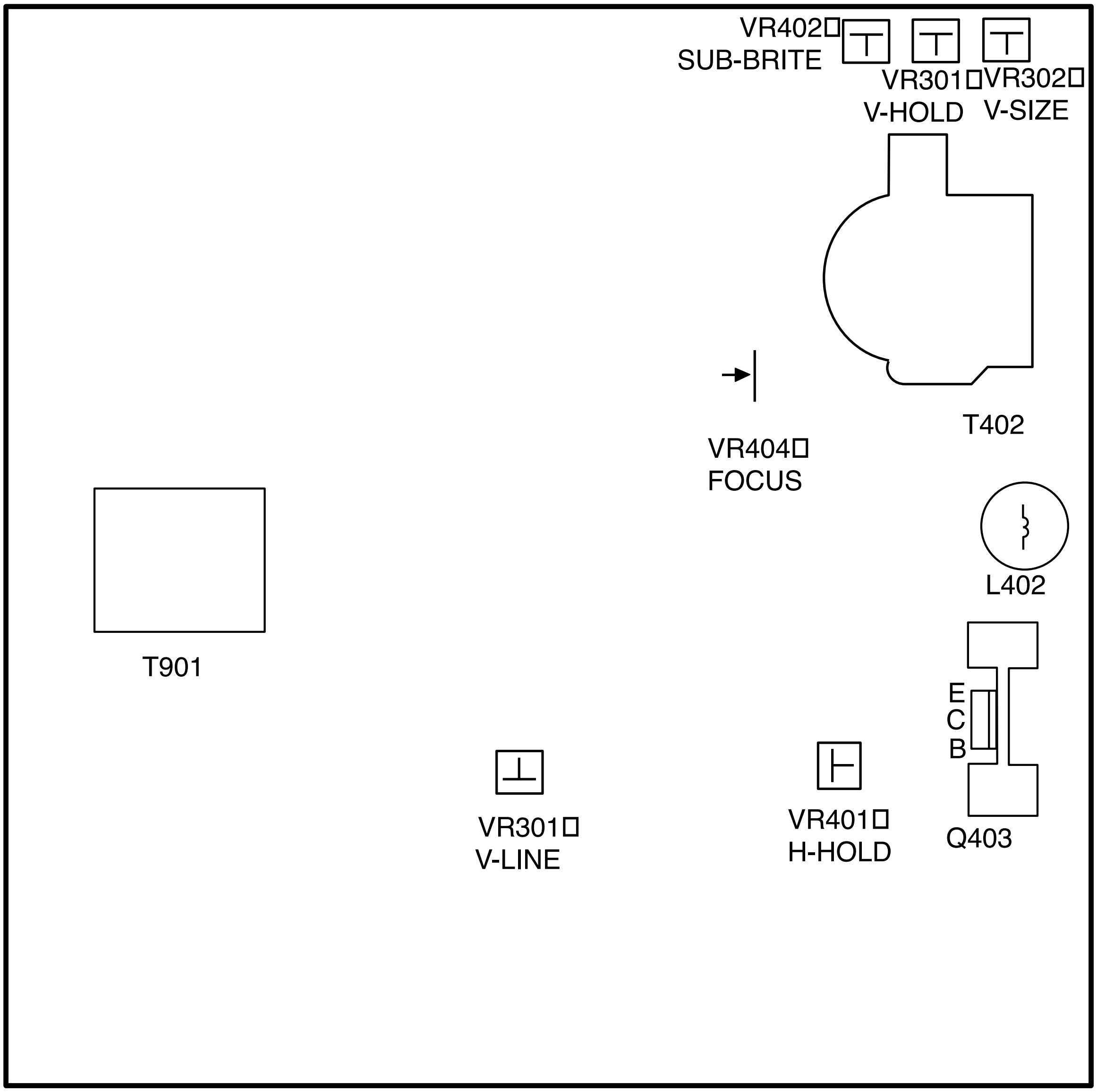


Fig. 8

VR BOARD
(Foil side)

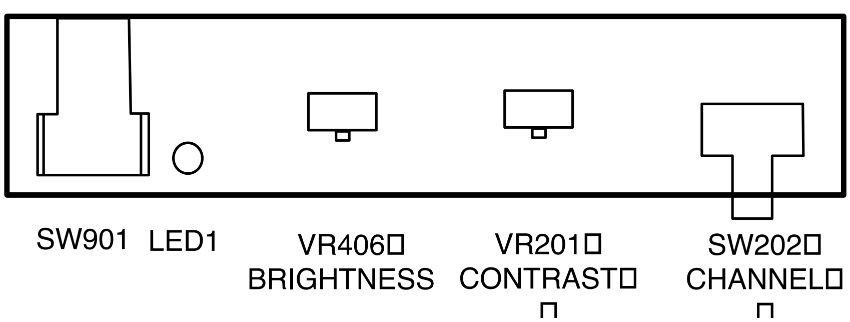
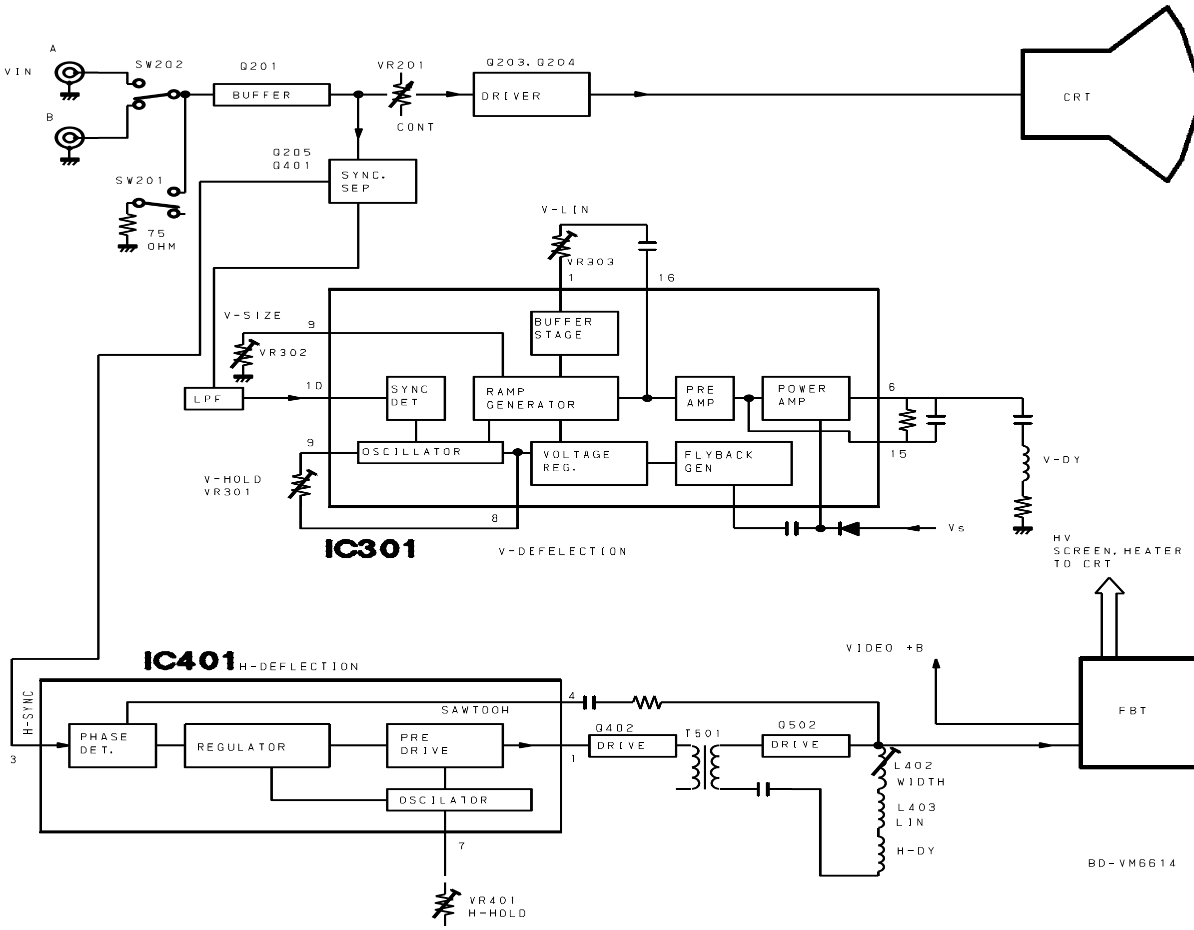
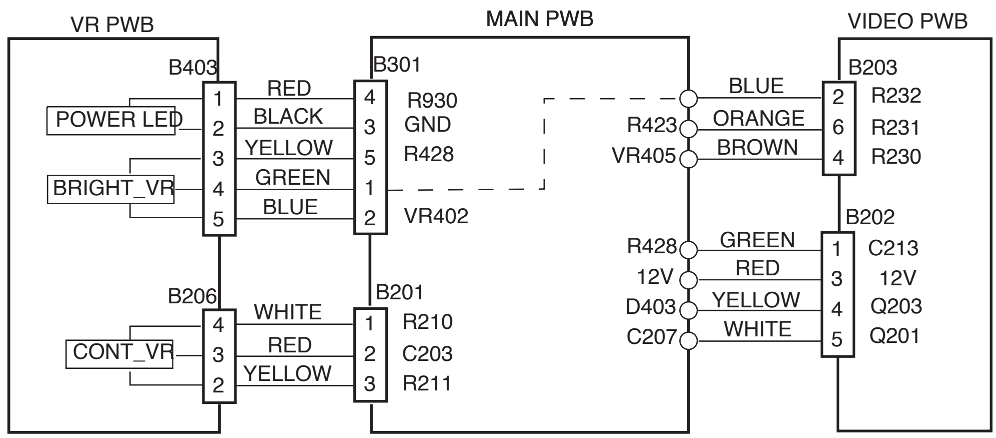


Fig. 9

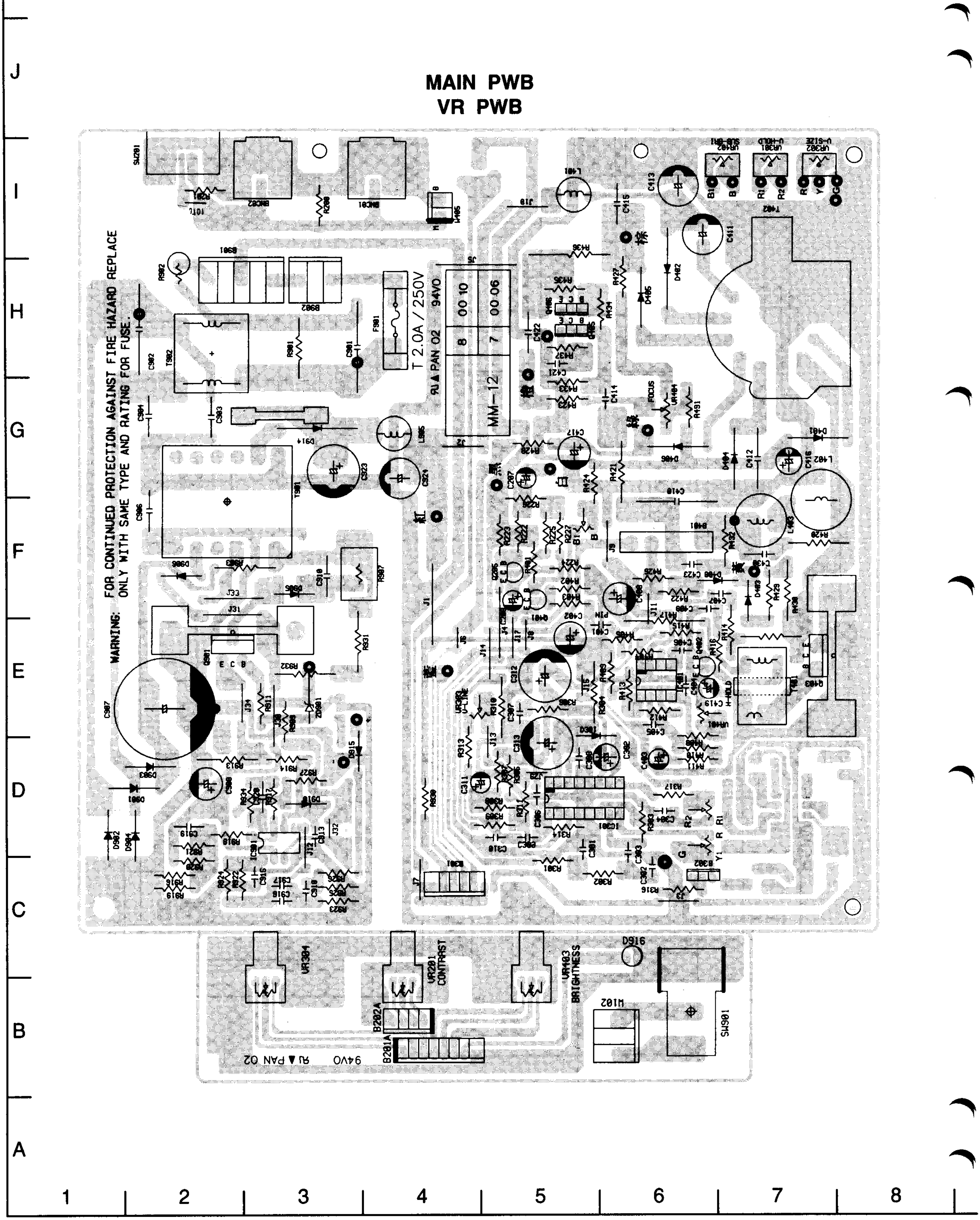
BLOCK DIAGRAM



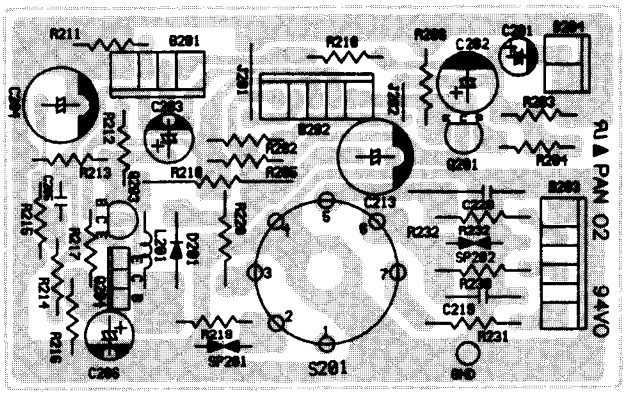
OVERALL WIRING



MAIN PWB
VR PWB



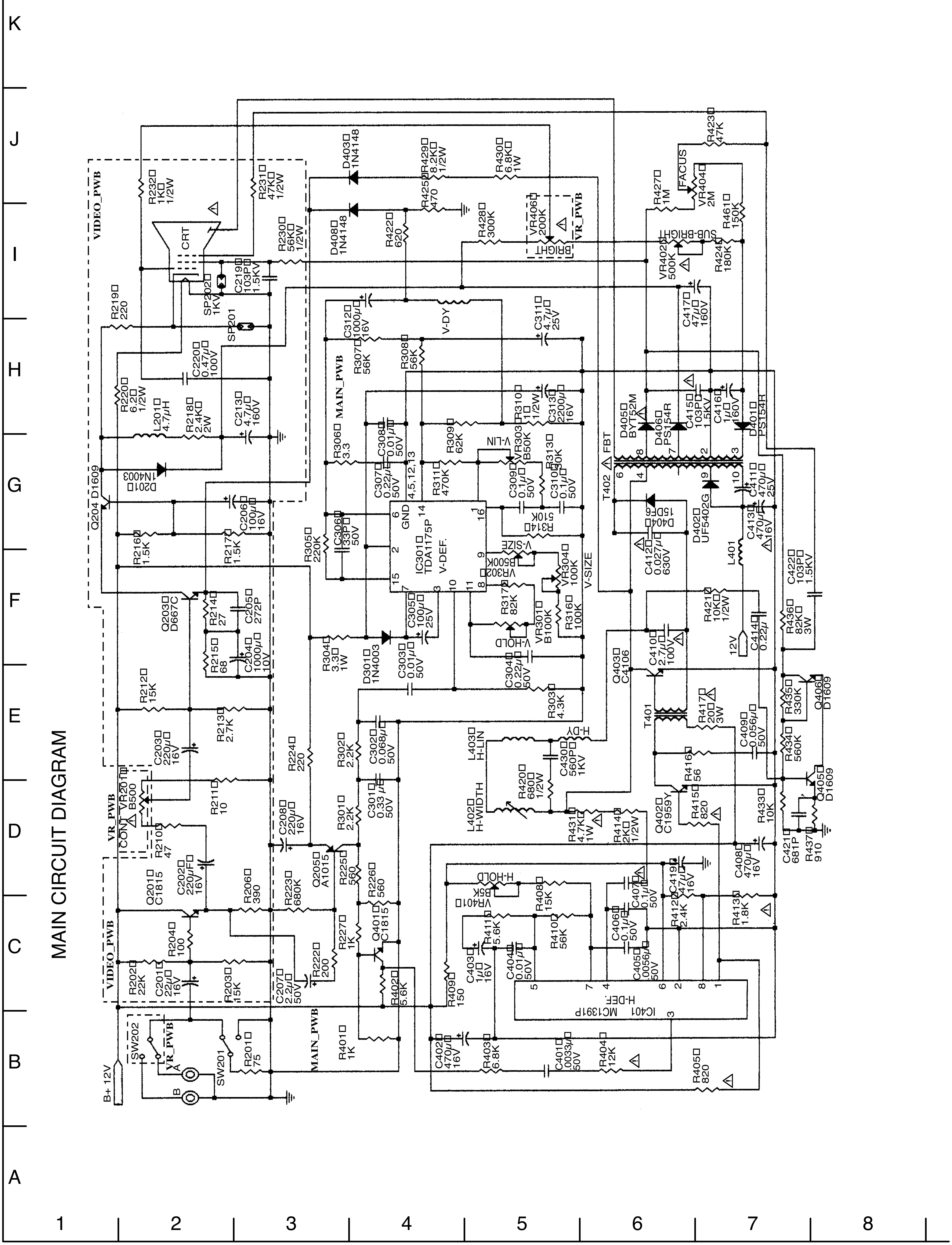
VIDEO PWB



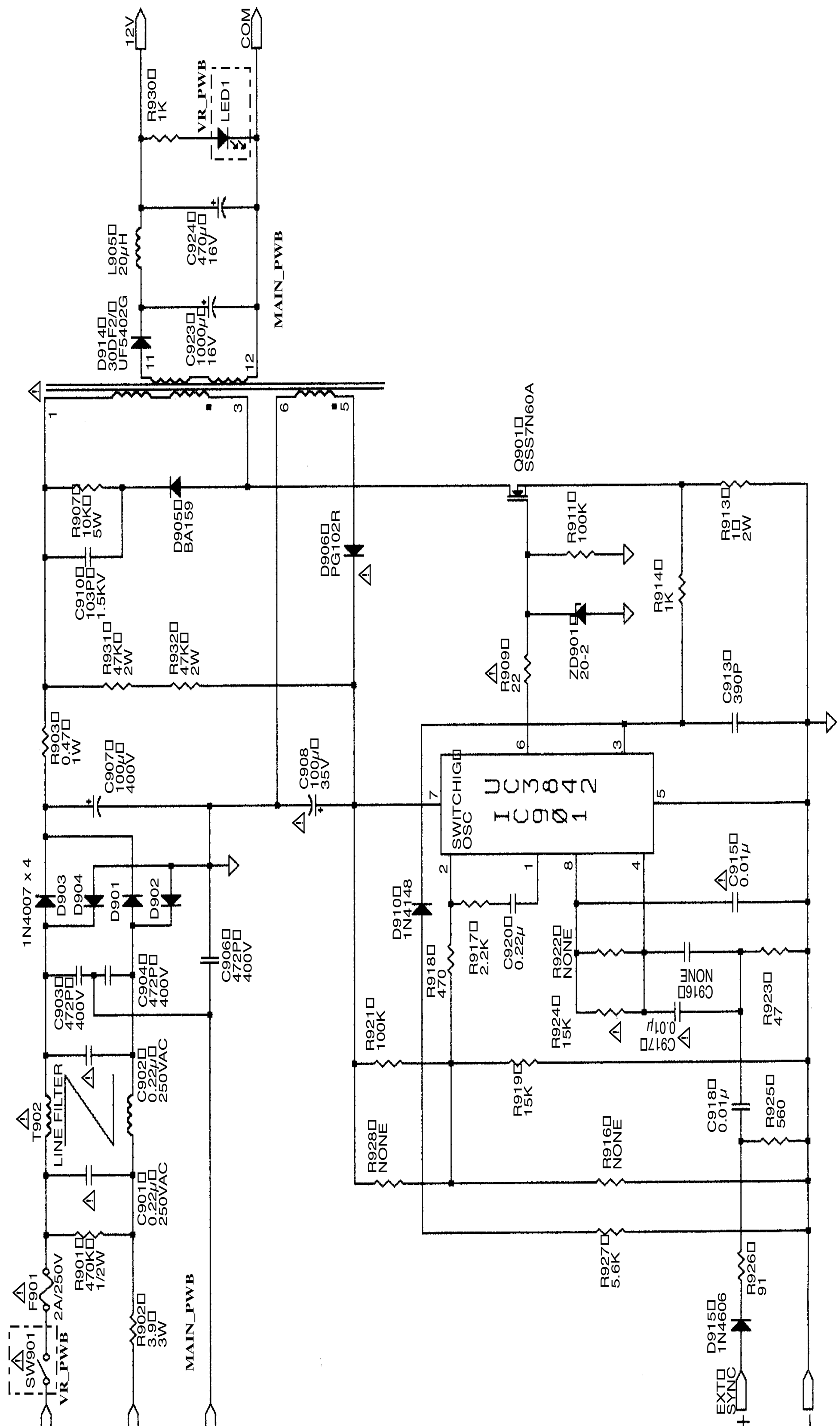
K
J
I
H
G
F
E
D
C
B
A

1 2 3 4 5 6 7 8

MAIN CIRCUIT DIAGRAM



POWER CIRCUIT DIAGRAM



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